

## REMARKS/ARGUMENTS

Claims 1-4, 7-12, and 15-17 are pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of these remarks.

### The §101 and §112, First Paragraph, Rejections of Claims 16 and 17

On page 3 of the office action, the Examiner indicated that the rejections of claims 16 and 17 under 35 U.S.C. §101 and 35 U.S.C. §112, first paragraph, as set forth in the 11/13/06 office action, still stand, and that the Applicant's arguments are unpersuasive as to these rejections.

Referring back to page 3 of the 5/17/06 office action, the Examiner initially rejected claims 16 and 17 under 35 U.S.C. 101 as being directed to non-statutory subject matter because:

Applicant claims a machine-readable medium, wherein the medium can be a transmission medium. On paragraph 45, applicant claims a machine-readable medium "any other machine-readable storage medium ... transmitted over some transmission medium such as over electrical wiring or cabling, through fiber optics, or via electromagnetic radiation."

In response, in the 8/16/06 amendment, the Applicant deleted from the specification the phrase, "transmitted over some transmission medium such as over electrical wiring or cabling, through fiber optics, or via electromagnetic radiation." Since the language complained of by the Examiner no longer existed in the specification, the Applicant argued that the rejection of claims 16 and 17 as directed to non-statutory subject matter was in error and should be withdrawn. In the 11/13/06 office action, the Examiner newly rejected claims 16 and 17 under §112, first paragraph, alleging that "[t]he amendment made to the specification raises new matter issue since it changes the scope of the invention as it was originally disclosed in the disclosure of the invention," citing to MPEP §608.04. In response to the allegations of adding new matter, the Applicant argued in the 2/12/07 amendment that "the Applicant did not add any new matter in the Applicant's last Amendment, but, in fact, deleted subject matter from the only specification paragraph that was amended."

Now, the Examiner argues on page 2 of the current office action that, **"since the applicant is neither allowed to add any new matter to the specification nor to delete any subject matter from the specification, the non-statutory subject matter is still standing."** This argument is wholly unsupported by any law or rule. MPEP §608.04, entitled "New Matter," states that introducing new matter to a patent specification is not permitted. However, nowhere does this MPEP section, nor any other MPEP section or rule of law, state that deletion of subject matter from a patent specification is not permitted. Indeed, 37 C.F.R. §1.121(d)(1)(i) describes the procedure for deleting subject matter, such as a paragraph, from a patent specification, which is done, e.g., by submitting "[a]n instruction, which unambiguously identifies the location, to delete one or more paragraphs of the specification." The Examiner has fabricated this so-called disallowance of deleting subject matter from a patent specification, and since there is no proper basis for this rejection, and since the specification no longer contains the allegedly-objectionable specification language, the Applicant respectfully submits that both the §101 and §112, first paragraph, rejections of claims 16 and 17 are improper and should be withdrawn.

### The §103 Rejections of Claims 1-4, 7-12, and 15-17

On page 3 of the office action, the Examiner rejected claims 1-4, 7-12, and 15-17 under 35 U.S.C. 103(a) as being unpatentable over U.S. Application No. 2002/0029362 ("Stephen") in view of U.S. Patent No. 5,600,664 ("Hayashi") and the instant application's disclosed prior art (the "APA").

In the 2/12/07 amendment, the Applicant argued that claims 1-4, 7-12, and 15-17 are allowable over Stephen, Hayashi, and the APA, as follows:

Claim 1 recites, *inter alia*, that:

updating the forward probability for a state in step (c) comprises the step of selecting the maximum combined probability for transitions to the current state, given by:

$$A_j^k = \max_{i=0,1,\dots,7}^* (A_i^{k-N} + \tilde{\Gamma}_{i,j}^k) \quad \text{for } j = 0, 1, \dots, M-1,$$

where  $\tilde{\Gamma}_{i,j}^k$  is the combined probability obtained by adding  $N$  individual branch metrics from time  $k-N$  to time  $k$  in an original trellis, and  $M$  is the number of states.

As the Examiner acknowledges, Stephen and Hayashi fail to disclose the foregoing features of claim 1, which the Examiner has previously acknowledged in indicating the subject matter of claim 1 as allowable. The Examiner now attempts to supply these missing teachings by alleging that “[t]he instant application’s disclosed prior art teaches updating the forward probability for a state comprises selecting the maximum combined probability for transitions to the current state given by equations 8-9 (Pg. 3).” This statement is a mischaracterization of the teachings of the instant application’s disclosed prior art. Equations (8) and (9), reproduced below, do not disclose selecting a maximum combined probability for two or more transitions to the current state, as the Examiner claims, but rather, merely maximum probabilities for single transitions to the current state:

$$A_j^k = \max_{i \in S}^* (A_i^{k-1} + \Gamma_{i,j}^k) \quad (8)$$

$$B_i^{k-1} = \max_{j \in S}^* (B_j^{k-1} + \Gamma_{i,j}^k) \quad (9)$$

Note that claim 1 recites that  $N$  must be “an integer greater than 1,” i.e., to account for more than one transition. In Equations (8) and (9), the superscript to the first term in the  $\max^*$  operand is  $k-1$ , not  $k-N$ , where  $k-N$  indicates only a single transition. No merged or combined trellis is ever discussed in the Applicant’s disclosed prior art, and therefore, Equations (8) and (9) cannot possibly disclose the selection of any maximum combined probability. In fact, the modification of Equations (8) and (9) to conform to a merged-trellis structure is disclosed as part of the *Detailed Description* section of the specification, e.g., at p. 5, line 27, to p. 6, line 22 – not in the *Background of the Invention* section of the specification. The Examiner is therefore using the Applicant’s own invention to supply missing teachings for this obviousness rejection. It is well-established case law that “[o]bviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor.” *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1551, 1553, 220 U.S.P.Q. (BNA) 303, 311, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Because none of the cited references discloses a step of “selecting the maximum combined probability for transitions to the current state,” no combination of the references could possibly render obvious claim 1.

Now, in the “Response to Arguments” section of the 5/17/07 office action, instead of addressing the foregoing arguments made by the Applicant, the Examiner simply restates the Examiner’s incorrect and wholly unsupported allegation that “[t]he instant application’s disclosed prior art discloses updating the forward probability for a state comprises selecting the maximum combined probability for transitions to the current state given by equations 8-9 (Pg. 3).” As can plainly be seen in Equations 8 and 9 above, these equations do not disclose selecting a maximum combined probability for two or more transitions to the current state, as the Examiner claims. The Applicant simply does not understand why the Examiner is asserting that Equations 8 and 9 disclose selecting a combined probability. If the Examiner truly believes that Equations 8 and 9 somehow disclose selecting a combined probability, then the Applicant respectfully asks that the Examiner provide a detailed explanation of how this could possibly be the case, rather than repeating the same conclusory statement, so that the Applicant can have a fair opportunity to respond appropriately to this allegation. Otherwise, as fully discussed above, since neither the APA, nor

Stephen, nor Hayashi discloses a step of “selecting the maximum combined probability for transitions to the current state,” none of these references, whether taken alone or in combination, could possibly render obvious claim 1.

For all these reasons, the Applicant submits that claim 1 is allowable over the cited references. For similar reasons, the Applicant submits that claims 9 and 16 are also allowable over the cited references. Since the rest of the claims depend directly or indirectly from claims 1, 9, or 16, it is further submitted that those claims are also allowable over the cited references. The Applicant submits therefore that the rejections of claims under Section 103 have been overcome.

In view of the above remarks, the Applicant believes that all of the now-pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Respectfully submitted,

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